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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/605,042	09/03/2003	Steve Hotelling	APL1P285	2041
22434	7590	01/12/2006	EXAMINER	
BEYER WEAVER & THOMAS LLP P.O. BOX 70250 OAKLAND, CA 94612-0250			PERVAN, MICHAEL	
			ART UNIT	PAPER NUMBER

2677

DATE MAILED: 01/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/605,042	<b>Applicant(s)</b> HOTELLING ET AL.	
	<b>Examiner</b> Michael Pervan	<b>Art Unit</b> 2677	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 03 September 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10-21 is/are allowed.
- 6) ☒ Claim(s) 1-4 and 22-25 is/are rejected.
- 7) ☒ Claim(s) 5-9, ~~22~~ and 26-30 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Objections***

1. Claims 1 and 22 objected to because of the following informalities: "that" should instead be "than". Appropriate correction is required.
2. Claim 27 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 27 depends on non-existent claim 34. For purposes of prior art rejection, claim 27 will be treated as depending on claim 24.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:  

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.  

Claim 4 recites the limitation "computer mouse" in line 1. The examiner suggests changing this to "pointing device". There is insufficient antecedent basis for this limitation in the claim.
5. Claim 10 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 10 recites the limitation "the accelerometer" in line 10. The examiner suggests changing this to "the inertial tracking engine". There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-2, 4, 22-23 and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Scholder (US 5,805,144).

In regards to claim 1, Scholder discloses receiving first tracking information from a first tracking device 320 (Figure 3; col. 7, lines 16-22), periodically determining accuracy of the first tracking information (col. 8, lines 7-15, 28-35 and 39-43) and activating and using a second tracking device 220 (Figure 2) to acquire second tracking information (col. 6, lines 19-26) when said determining indicates that the accuracy of the first tracking information is inadequate, wherein the first tracking device is a substantially lower power device than the second tracking device (col. 8, lines 7-15, 28-35 and 39-43).

In regards to claim 2, Scholder discloses deactivating the second tracking device when said determining indicates that the accuracy of the first tracking device is adequate (col. 8, lines 7-15, 28-35 and 39-43; since the driver can turn the enhanced

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mode on and activate the touchpad it can also turn the enhanced mode off and deactivate the touchpad).

In regards to claims 4 and 25, Scholder discloses pointing device including a surface sensor (col. 7, lines 16-18; it is inherent that a rolling ball detects surfaces since the ball is pushed up further into the pointing device when the device is placed upon a surface).

In regards to claim 22, Scholder discloses computer code for receiving first tracking information from a first tracking device (col. 7, lines 43-47), computer code for periodically determining accuracy of the first tracking information (col. 8, lines 28-35 and 39-43), computer code for activating and using a second tracking device to acquire second tracking information when said determining indicates that the accuracy of the first tracking information is inadequate (col. 8 lines 7-15, 28-35 and 39-43), wherein the first tracking device is substantially lower power than the second tracking device and computer readable medium 350 (Figure 3) for storing the computer code (col. 7, lines 42-47).

In regards to claim 23, Scholder discloses computer code for deactivating the second tracking device when said determining indicates that the accuracy of the first tracking information is adequate (col. 8 lines 7-15, 28-35 and 39-43; since the driver can turn the enhanced mode on and activate the touchpad it can also turn the enhanced mode off and deactivate the touchpad).

***Claim Rejections - 35 USC § 103***

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8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 3 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scholder in view of Liu (US 6,351,257).

In regards to claims 3 and 24, Scholder discloses the first tracking device being an accelerometer 320 and 322 (Figure 3 and col. 7, lines 16-22; by moving the pointing device around the rolling ball is moved around and is able to detect the speed and direction of the pointing device therefore it acts as an accelerometer). Scholder does not disclose the second tracking device being an optical tracking engine.

Liu discloses the second tracking device being an optical tracking engine 44 (Figure 3 and col. 2, lines 34-41; an image sensor detects optically therefore it is an optical tracking engine). It would have been obvious at the time of invention to modify Scholder with the teachings of Liu because optical tracking engines are more accurate than a touch pad.

***Allowable Subject Matter***

10. Claims 10-21 allowed.

11. The following is a statement of reasons for the indication of allowable subject matter: Examiner was not able to find an adaptive duty cycle signal generator coupled to the optical engine and the inertial tracking engine arranged to compare tracking

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information provided by the inertial tracking device and provided by the optical tracing engine such that when the comparison is valid the adaptive duty cycle signal generator provides a first duty cycle signal that deactivates the optical tracking engine such that only the low power tracking engine provides the tracking information to the computer.

12. Claims 5-9, and 26-30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: Examiner was not able to find a surface sensor that deactivates both accelerometer and the optical tracking engine when it is determined that the surface is not a suitable surface, calibrating the accelerometer using a calibration value provided by the optical tracking engine.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Pervan whose telephone number is (571) 272-0910. The examiner can normally be reached on Monday - Friday between 8am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on (571) 272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MVP  
Jan. 6, 2006



**AMR A. AWAD  
PRIMARY EXAMINER**